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"IN ALFALFA WE TRUST"

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GLENHEIM FARM

Alfalfa Seed Book

NO. 6

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CHARLES C. HAAS

WHITEWOOD, S. DAK.



"IN ALFALFA WE TRUST"

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CHARLES C. HAAS

WHITEWOOD, S. DAK.

## AFFIDAVIT.

This is to certify that the various varieties of alfalfa seed I am growing and selling are true to name, grown under dry land conditions without irrigation (rainfall 16 inches or less), at an altitude above 3,000 feet in the severe climate of the Northern Black Hills in South Dakota. Among the varieties I am offering for sale this year are:

Orenburg (Falcata) S. P. I. H261 (Asiatic).

Semipalatinsk (Falcata) S. P. I. 24455 (Asiatic).

Cherno (Media) S. P. I. 20716 (European).

Cossack (Media) S. P. I. 20714 (European).

Grimm (Media) S. D. 162 (American).

Turkestan (Sativa) S. D. 164 (Asiatic).

Common (Sativa) S. D. 12 (American).

Common—Black Hills Pioneer Strain. This strain was introduced into the Black Hills by Capt. Seth Bullock in 1881, and is believed to be the oldest and hardiest strain in the Northwest.

CHAS. C. HAAS, Grower.

Chas. C. Haas appeared before me this 29th day of December, 1914, and after being duly sworn testified that the above was true to the best of his knowledge and belief.

(SEAL)

H. T. COOPER, Notary Public.

My Commission Expires November 4, 1915.



## **"IN ALFALFA WE TRUST."**

GLENHEIM FARM is located in Whitewood Valley, 8½ miles northeast of Whitewood, in the Northern Black Hills (the boundary line of Meade and Lawrence counties runs through the ranch) and consists of 1,680 acres of land with several sets of farm buildings.

Its elevation above the sea ranges from 3,000 to 3,400 feet, and the rainfall varies from 9 to 18 inches per annum, with an average for the last 10 years of about 16 inches.

Extremely low temperatures characterize our winters, reaching to 30 and even 40 degrees below zero nearly every winter, with fields mostly bare of snow, thus subjecting our alfalfa to the severest of tests and which eliminates the weaklings and leaves only the strongest and hardiest plants to bear seed.

We have nearly every character of soil found in the west on our ranch, which gives us a chance to test out the various strains and varieties of alfalfa that give promise of being of value to us or the farmer and stock grower, finding which is best adapted to different soils.

We have been on this ranch since 1898 and have grown alfalfa since the beginning, and have had previous experience in growing alfalfa since 1882.

While this may or may not be considered a "natural alfalfa country," we have nevertheless proven that it will grow here very successfully, and in consequence it has become the mainstay, the back-bone of the stockgrowers and dairymen of the Black Hills for the past 20 years or more.

While our yields of hay per acre may not be phenomenal when compared with that of sections having a greater rainfall, it has always been very satisfactory and returned a good cash value per acre, and has made the forage supply merely a matter of acreage, since we have learned the secret of success and have no difficulty in getting a stand.

On dry years when the hay crop is below average we have a chance of getting a good seed crop, which more than offsets the shortage in hay, while the "straw" is really as good as second crop hay for feed; consequently we win out, wet or dry.

We are growing on Glenheim Farm every variety of alfalfa that gives promise of being of value. We have been growing Grimm since 1908, and for a number of years have been operating with Prof. N. E. Hansen of Brookings in propagating his Siberian importations, and find that there are a number of them that are going to prove very valuable additions to the dry farmer's list of profitable crops.

Besides growing of pure varieties, we have been doing considerable experimental work on our own account in the breeding up of superior strains from individual selections.

We have a number of these selections that are giving an

## “IN ALFALFA WE TRUST.”

excellent account of themselves, and we hope in a few years to have seed of these to offer.

Among these are some color selections of the Grimm, a yellowish purple, a greenish blue, and a reddish purple, that have excellent root and top growth, and there is also a white blossom that appears to breed true, while my most prized selection has a pure white blossom with cream white seed. This has been breeding true to color of bloom and tint of seed—no being humbugged when you buy seed of this strain. You will be able to tell it by the color of the seed.

Among my Siberian hybrids is one of a low spreading growth that is an exceptionally heavy yielder of hay and is a wonderful seeder.

But perhaps the most valuable selection of all was taken from the pure *falcata*—the Orenburg. This selection is upright in growth, leaves and stem numerous and very fine. It has a really marvelous root development, with a crown of three-year-old plants two feet in diameter and sending up more than 500 stems.

For experimental purposes I have procured seed of their “native” alfalfa from every state in which alfalfa is growing, from South America, Europe, and Asia, and have planted it in my plots, which gives me an opportunity to study these strains closely, their adaptability and value to this section, and from this observation and my long experience as a grower of alfalfa believe that there is no strain of common alfalfa that excels the variety grown here in the Black Hills. Its history has been such that we have no fear in recommending it, especially such strains as have been growing here for a greater number of years. The very fact that an alfalfa has grown here and produced better year after year for a generation is sufficient proof of its hardihood and that it will grow almost anywhere.

There are localities, however, and these may be of greater or less extent, in which the soil or climatic conditions are such that no strain of common alfalfa can withstand them, and in such cases farmers must buy Grimm or Siberian seed or follow the more expensive alternative of not growing alfalfa.



## REGARDING PLANTING.

Success is not assured by simply buying the right kind of seed. Care must be used in preparing the seed bed and planting this seed. I always recommend drilling in the seed with a grain drill if the drill will handle the fine seed. It can be covered better, deeper, and more uniformly, in this manner.

Sow from 5 to 15 pounds per acre, depending on variety



## **"IN ALFALFA WE TRUST."**

and yearly precipitation; the greater the rainfall the larger the amount of seed per acre, and less seed is required of hardy strains.

Cover your seed about one inch deep in a firmed seed bed, but do your packing before, not after, sowing. Avoid a loose soil. It is sure to dry out. An ideal place is shallow disked corn stubble.

For the dry states, and especially on uplands, I strongly advise drilling in rows  $3\frac{1}{2}$  feet apart at the rate of about  $1\frac{1}{2}$  pounds of seed per acre, as it is only by cultivation that sufficient moisture can be conserved to assure a crop.

If your soil needs inoculation, sow from 100 to 500 pounds of soil from a successful alfalfa or sweet clover field on your field before sowing your seed. Disk in well, doing this on a cloudy day, as sunlight kills the bacteria.

Cultures are very convenient and are really cheaper if you have to pay for transporting soil any considerable distance. The bacteria multiply faster and are in close contact with the plant from the beginning.

Sow seeds early so as to take advantage of the period of greatest moisture. April is none too early, especially for the Siberian varieties and sweet clover, as these have extremely hard coats and do not germinate well unless frozen in the soil.

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## **FOR YOUR INFORMATION.**

Glenheim Farm was established in 1898,

Is

Black Hills Substation to the South Dakota Experiment Station,

Is

Located  $8\frac{1}{2}$  Miles Northeast of Whitewood, 18 Miles Northeast of Deadwood.

Elevation 3,150 Feet, Rainfall 16 Inches. C. & N. W. Railway, American Express Company. Telegraph Code A. B. C.

Telephone Number 5-F-3 Bell Telephone.

Rural Route No. 1.

Bank Reference Whitewood Banking Company.

MY GUARANTEE.

ALL OF MY SEEDS ARE DRY LAND GROWN AND TRUE  
TO NAME.

I am quoting herewith my affidavit regarding the seeds which I grow myself. Regarding those grown by others, I have used every means in my power to investigate their true character, and believe them to be as described. I guarantee safe arrival, but after acceptance of seed by purchaser I cannot be held further responsible for their outcome, as after seed leaves

## **"IN ALFALFA WE TRUST."**

my possession it is subjected to too many contingencies over which I have no control. I cordially invite all perplexed customers to write me for advice, and will cheerfully give all the assistance possible to assist my customers to succeed.

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## **PRICES.**

Listed prices of my special varieties will remain unchanged throughout the year, but prices of common are expected to fluctuate considerable and special price lists will be issued whenever the prices vary so much as to warrant them, but you may rest assured that your orders will be filled at lowest possible price at the time of their receipt.

Sacks are free, unless otherwise stated, and net weights are given. Siberian seeds are shipped double-sacked, sealed and insured.

Shipments are made by freight, express, or parcel post and at buyer's expense unless otherwise stated, and as soon after receipt of order as possible, usually next day.

Seed will be shipped Bill of Lading attached to responsible parties and to County Agents, Farmers' Associations and Clubs on account upon special correspondence. FILLING ORDERS FOR SUCH ASSOCIATIONS HAS BEEN MY SPECIALTY FOR A NUMBER OF YEARS.

Remit in the manner most convenient. Personal checks accepted.

Free samples of all grades of common, Grimm, and sweet clover sent upon request. No samples of Siberian.

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## **ALFALFA SEED.**

### **COMMON S. D.**

Under this head I am selling all of the seed grown in this section regardless of previous history. Some of it may be of the Pioneer Strain, the records of which are not complete enough to list it as such. Nearly all fields are from home-grown seed, and have records of from 10 to 20 years' performance in which it has given a good account of itself. We believe our Black Hills grown alfalfa to be equal to any grown in the Northwest and far superior to any grown south of us for northern seeding.

There are several grades of this, owing to the presence of brown and green seeds, and also the per cent. of waste matter and weed seeds, and prices are governed accordingly.



## **"IN ALFALFA WE TRUST."**

We can furnish this seed in any quantities from one pound to car lots. Write for special prices on large lots. Amount to sow per acre from 10 to 20 pounds.

### **PRICES.**

A Grade-----\$18 per 100 pounds, sacks extra at 25c. each.  
B Grade----- 16 per 100 pounds, sacks extra at 25c. each.  
D Grade----- 12 per 100 pounds, sacks extra at 25c. each.

### **BROWN SEED.**

We have quite a quantity of good clean alfalfa seed which, although brown and somewhat shrunken, shows a high germination test, which we offer at the bargain price of 8c. per pound, sacks extra. Sample on request.

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## **SCREENINGS AND SCALPINGS.**

There is always an accumulation of these, and although they are not marketable, they are much too good to throw away, so I am offering them at small cost.

Scalpings are the largest of alfalfa seed mixed with weed seed of same size. About one-fourth of the weight being alfalfa seed, and the tailings are the smallest and lightest alfalfa seed. It is the common practice for farmers and ranchers here to use this seed for sowing in waste places, on the sod in pastures, in the brush along creeks, etc., and while the results may not be what could be expected from sowing good seed, the cost is nominal and often very satisfactory stands are obtained in this manner, and the experiment is inexpensive. Price from 3c. to 6c. per pound, sacks extra. Samples on request.

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## **SETH BULLOCK'S ALFALFA.**

The pioneer strain of alfalfa in the Black Hills and we believe in the state. Capt. Seth Bullock, our pioneer sheriff, rough rider and ranchman and associate of Col. Roosevelt, brought the first alfalfa to the Black Hills in 1881 and sowed it on his ranch on the northern side of the Black Hills near Belle Fourche. He secured a small quantity of seed the same year and distributed this among the ranchmen who cared to test the new forage plant.

I have always been interested in alfalfa fields everywhere and was particularly impressed with the heavy productiveness of the alfalfa of the older fields in this section, as well as the good stands that seemed to be maintained for so many years in spite of severe winters and dry summers, and this caused me to attempt to trace their origin.

## “IN ALFALFA WE TRUST.”

For a number of years I have been attempting to locate these old fields and trace the source of the seed that had given such a good account of itself. Early in my investigations I discovered that these hardier fields seemed to be related and were converging toward a common source, but I could not seem to locate this source, so that it would stay “put,” until this last fall, when, listening to an old-timer spinning a yarn of early days in which Indians, buffalo, and bandits figured promiscuously and plentifully, he mentioned riding into Seth Bullock’s ranch one night and feeding his horse on alfalfa hay, the first he had ever seen. Right then is when I interrupted with, “What year was that, Bill?” “The winter of ’83,” he replied. “Eureka.” That antedated by two full years my former oldest field, and I straightaway wrote Capt. Bullock, who gave me the historical facts regarding the first planting of alfalfa in Dakota Territory. It was a comparatively easy matter after this to gather up the connecting links and I found that a large per cent. of the old fields in the Hills trace their lineage back to that old Bullock field which for 34 years has withstood this rigorous climate and produced three cuttings of hay per year.

Old-timers here all state that the early fields in the Black Hills antedate all alfalfa seeding in the Northwest, and that after leaving the Bullock ranch on the old stage line between Deadwood and Miles City via. Stoneville they saw no alfalfa, or in fact farming of any kind for many years later.

Capt. Seth Bullock procured the seed from Utah through the assistance of Capt. Thos. Russell, general agent for the U. P. R. R. Its Utahian history is shrouded in mystery, but it must have been of some very hardy strain, possibly a Grimm ally, or it could not have withstood our severe climate and would have perished as so many later importations from that and other southern states did. It may even be a true Grimm brought by some early Mormon convert from Minnesota, but, we are not going to try to sell it as Grimm nor Near-Grimm as some eastern seedmen are doing because of its close resemblance to Grimm in root and blossom. We are going to offer it on the record of its own performance, which is such that it is safe to say that there are few localities in which it will not make good.

### PRICES.

A Grade—1 pound by mail postpaid, 50c.; 10 pounds, \$4; in 100 pound lots, F. O. B. Whitewood, \$35. Sacks free.

B Grade—1 pound by mail post paid, 30c; 10 pounds, \$2.50; 100 pounds F. O. B. Whitewood, \$20. Samples on request. Sacks free.



**"IN ALFALFA WE TRUST."**

## **GRIMM S. D. 162.**

GRIMM'S alfalfa is too well known to need further description here. The United States Government by a series of extended and very severe tests prove it to be the hardiest and heaviest producer of all commercial alfalfas. I have been growing it since 1908, and it has in every way lived up to this claim, and I can heartily recommend it for all sections.

I have shipped seed to all parts of the United States and Canada and have never had a complaint of its winter-killing.

Two years ago I filled an order for Grimm from Special Agent Georgeson, in charge of the Alaska Experiment Stations, to be tested with a number of other strains of Grimm in their three stations at Rampart, Fairbanks, and Kadiak Island. It survived the first winter very successfully, but last winter proved to be a "killer," and my Grimm, along with all others, went down to defeat at Rampart, leaving the field to the pure Falcata, which was the only alfalfa able to withstand that climate.

Mr. Georgeson wrote me, however, that a few plants of my Grimm had survived, which gave the hope that there was a possibility of breeding up a strain of it sufficiently hardy, by elimination, and requested more seed for a second trial; but for the present will place his main dependence on pure Falcata.

One pound by mail postpaid, with my book on alfalfa, \$1; 5 pounds, enough to sow one acre, \$3.75, post paid; 10 pounds, \$6.50, post paid. 100 pounds, transportation prepaid, \$60. Double sacked in sealed bags and safe arrival insured.

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## **HANSEN'S SIBERIAN AND RUSSIAN ALFALFAS.**

In the year of 1898 the United States Government sent Prof. N. E. Hansen around the world as an Agricultural Explorer in search of unknown plants of value for introduction into America.

The results from this trip were of such value that he was sent on four succeeding trips.

Although a horticulturist, Prof. Hansen has ever been interested in dry land forage plants, and cherished a hope early in his career of one day finding a forage plant that would reclaim the vast areas of waste land in America, of peopling her desert regions with happy homes of peace and plenty.

It was a great dream, and it went with him into those wild and remote regions he traveled in search of rare plants

## "IN ALFALFA WE TRUST."

and caused him to gather a few seeds from every forage plant of promise.

The result was that he brought to America the seeds of a large number of unknown forage plants, the most promising of which were alfalfa.

This great forage plant seemed not only to be a great producer of high-class forage, but it seemed to be more capable of adapting itself to all kinds of climatic and soil conditions and to grow luxuriantly under adverse conditions of drouth and cold in which all other plants, if they survived at all, were so dwarfed in size as to be of little value.

One great weakness in our form of government is that our Governmental Departments are dependent for the funds for carrying on their work on the whims of an uninterested and ever-changing legislative body which will gorge them today with appropriations for great undertakings and starve them tomorrow, leaving the great foundations laid to crumble to ruin for lack of money to complete the work. It was thus with Prof. Hansen's explorations. After spending vast sums for the discovery of these rare plants, no appropriation was made for the careful testing out by careful experts who understood and appreciated their value. They were merely sent out through the usual channels of distribution, and met the fate of most "free seeds." From 5,000 allotments of seed sent out from the first trip alone (and I do not know how many thousands from the succeeding trips) absolutely nothing was accomplished with these alfalfas. I do not say that there is not a plot of alfalfa growing today from the Government distribution of these rare seeds procured at so great cost; but I do say if there is, it has been so well concealed that I have been unable to discover it, and its existence is of no value to the country.

After careful research and much correspondence; I have been unable to discover a single plot of Siberian alfalfa growing in America except those sent out and grown under the direct supervision of Prof. Hansen.

It was entirely due to his determined struggle without funds or encouragement that much of the fruits of these expensive explorations were not lost. But he would not give up his dream, and struggled along, getting one farmer and then another sufficiently interested to try out the plants he would send them, and in this manner got a few plants growing where they could be seen, and when given a chance they soon convinced the most skeptical of their value; and the farmers, especially in the dryer portions of the state, began to petition the Legislature to give Prof. Hansen some financial aid to carry on his work.

The result was that the 1911 South Dakota Legislature appropriated \$2,000 for a more extended testing out of these al-



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falfas (the result of these tests is given in full in South Dakota Bulletin 141, which should be procured and carefully read by everyone interested in alfalfa).

These tests were so satisfactory and conclusive that in 1913 the Legislature appropriated \$25,000 to hasten the procuring and introduction of these alfalfas, which put the final stamp of approval on them. All that remains now to complete the conquest is the production of seed in large enough quantities to supply the demand for it.

Prof. Hansen on his several trips gathered the seed of a large number of different varieties of alfalfa, not all of which were of value; some as yet have not been sufficiently tested and some are of value in restricted localities only. However, of the varieties tested, four, the Cossack, Chernob, Semipalatinsk, and Orenburg, have proven to be of great value.

WITH THESE FOUR VARIETIES OF ALFALFA IT IS POSSIBLE TO GROW ALFALFA ON EVERY FOOT OF LAND ON THE AMERICAN CONTINENT NOT ALREADY OCCUPIED BY AN ICEBERG OR A STONE WITHOUT A CREVICE IN IT.

They are growing at Rampart among the eternal Alaskan glaciers, right beneath the Arctic Circle. They are growing on the dry uplands west of the Missouri, where only sagebrush grew formerly; in fact, they are growing and making good in places where no other alfalfa ever has grown or ever can grow. and as soon as the seed becomes sufficiently plentiful they are going to reclaim thousands of acres, not only in the North and West, but in the East and South.

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### **COSSACK (S. P. I. 20714) S. D. 38.**

This is No. 194 of Prof. Hansen's 1906 trip. It is a hybrid alfalfa (*Medicago media*), a cross of the common blue-flowered alfalfa (*Medicago Sativa*) and the hardy yellow-flowered alfalfa (*Medicago falcata*), and has both yellow and blue flowers, often both on the same stem, and many intermediate shades and colors, so that a field in blossom presents a many-colored floral display.

In characteristics and hardiness it resembles the well-known and thoroughly reliable Grimm. With me it has been a slightly better producer of both seed and hay, and besides this very decided advantage over Grimm in that it can be readily distinguished from common alfalfa, hence the purchaser is protected from fraud, while the Grimm so closely resembles common in appearance that it takes an expert to distinguish them, hence the chance for seedmen to substitute the seed of the cheaper and inferior varieties is temptingly easy.

This alfalfa will undoubtedly displace the Grimm for the

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above reasons just as soon as the seed becomes as cheap as the Grimm. At the present time the price is prohibitive for general seeding and can be afforded only by those who are going in for seed production.

It is a very heavy seed producer and offers a fine opportunity to progressive farmers to get on the market early and reap a rich harvest while the price is high and competition slight. I strongly advise every farmer who is so situated that he can grow seed to sow at least 10 acres this coming spring.

One pound drilled in rows  $3\frac{1}{2}$  feet apart (the best way to sow for seed production) will seed an acre, and an acre will produce from 4 to 12 bushels of seed, depending on soil, rainfall, care, etc. The present prospects are that the price will not fall below \$2 per pound for several years, and for many years longer will sell at several times the price of common. Grimm has been prominently before the public for 10 years and is quite generally grown, and still the seed sells readily at 60c. per pound. It is easy to figure immense profits on the investment even with a minimum yield.

### **PRICES.**

Packet, 15c.; Ounce, 25c.; Pound, \$2.50; 5 Pounds, \$10; 10 pounds, \$20. All by mail post paid, packages sealed and insured.

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## **CHERNO (S. P. I. 20716) S. D. 39.**

This is No. 196 of Prof. Hansen's 1906 trip. It is a hardy hybrid so similar in appearance and characteristics to the Cos-sack that a description of it would simply be a repetition of the above.

### **PRICES.**

Packet, 15c.; Ounce, 25c.; Pound, \$2.50; 5 Pounds, \$10; 10 Pounds, \$20. All by mail post paid, bags sealed and insured.

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## **SEMIPALATINSK (S. P. I. 24455).**

This is a pure Siberian (*Medicago falcata*) with yellow flowers and was found growing wild by Prof. Hansen on the dry steppes of Siberia.

It will grow anywhere, on any kind of soil, and is a heavy producer of rank, rather coarse forage. It is recommended where other alfalfas have failed, such as extremely cold or dry regions. It is growing at Rampart in 66 North Latitude, and it not only "survived" but produced a heavy crop of forage on the dry uplands west of the Missouri River in 1911, with a rainfall during the growing season of but 3 inches. The foliage, aside



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from being rather coarse, is similar to other alfalfa and is eaten greedily by all kinds of stock.

This alfalfa will reclaim large areas in all parts of the United States, and is recommended for waste lands, stony pastures, etc., even in localities where other alfalfas are used for field culture.

### **PRICES.**

Packet, 15c.; Ounce, 50c.; Pound, \$5; 5 Pounds, \$20. All by mail, post paid, shipped in sealed bags, and insured.

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## **ORENBURG (H. 261).**

This is a pure Siberian (*Medicago falcata*) found growing wild in the Province of Orenburg by Prof. Hansen on his 1908 trip. This province lies between Parallels 50 and 60 North Latitude, and has a rainfall similar to Western South Dakota. The natives are stockgrowers and pasture their stock on this wild alfalfa and put it up for winter forage in much the same manner of our old-time cattlemen of the western range country, with this rather striking difference in favor of the wild alfalfa as against our prairie grasses, that while our ranchmen considered themselves in great luck if they could find some low rich bottom on which they could cut a ton of hay per acre; while in the main they had to depend on the uplands, that produce on alternate years a ton to four acres of ground, the Orenburg ranchman gets two tons per acre as an average and can cut the same ground every year. Now just stop and consider for a moment what it will mean to supplant the native western grasses with this wild Siberian alfalfa and you will begin to realize what Prof. Hansen's dream is going to mean for this region.

Orenburg makes the BEST forage of all alfalfas. The stems are fine, numerous, and well-leaved, hence there is absolutely no waste in coarse stems. Stock eat it as clean as prairie hay. This is the result of its spreading crown manner of growth. Crowns of mature plants average from 18 inches to 2 feet in diameter, and send up hundreds of fine stems instead of a few coarse ones.

When isolated it will send out rhizomes, and in this manner a single plant will soon cover a large area, thus making it easy to get it established in places that cannot be cultivated, as a few plants transplanted at great distances apart, or a thin stand from scattering seed on the sod will soon cover the intervening spaces and make a thick and compact stand over the entire surface. In one season these surface roots will run from four to six feet from the parent plant, forming new crowns along their way.

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wherever space permits, and these new crowns will later send out "runners" in their turn until all space is covered.

This alfalfa is going to find a hearty welcome in the East on account of its root system, which is peculiar for alfalfa inasmuch as the tap-root is hardly in evidence at all, its root system being a mass of laterals spreading for great distances in all directions, making it impossible for the frost to "heave" it out of the ground, as it does other alfalfas, breaking the tap-root and killing the plants, thus making the growing of alfalfa so uncertain in these sections. Another advantage of this root system is that it allows the plant to grow in places where water is near the surface, where tap-rooted alfalfas kill on account of "wet feet."

The supply of seed of this variety is so very limited at the present time that I can offer it only in packets for experimental purposes, but this need not prevent the progressive farmer from getting a start in it while he is learning of its value. Get a packet or an ounce of the seed and drill it in your garden. This fall after the rush of work is over plow out the plants and set them in a permanent field, spaced four feet apart each way, at which rate 2,400 will set an acre. As there are 14,000 seed to the ounce, one should, with any care and luck, get sufficient plants from an ounce of seed to set two or three acres. In this manner one can produce seed for large fields at small cost. I got my start in seed from 100 plants sent me by Prof. Hansen. These 100 plants the following year produced 3½ pounds of seed, which I drilled in rows and produced plants sufficient to set out a 40-acre field.

Don't wait two or three years, and then, when every one is going wild over Orenburg, pay several dollars a pound for seed to get a late start in the game; buy an ounce of seed now and have seed to sell to those short-sighted ones.

### PRICES.

Packets, about 30 to 40 seeds, 25c.; Ounce, \$1, by mail, postpaid. Shipped sealed and insured.

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## EDUCATIONAL PACKAGES.

In order to give everyone a chance to learn the value of these new alfalfas, and take no one's word for it by growing them on his own land side by side with the older and better known sorts, and observing results, I have made up what I call an Educational Package, consisting of one packet each of Orenburg, Semipalatinsk, Cossack, Cherno, Grimm, Turkestan, Bullock, and Common alfalfas, and one packet each of Yellow and White sweet clovers, and my book on alfalfa.

By drilling these packets of seed in the garden side by side

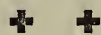


## “IN ALFALFA WE TRUST.”

and comparing their growth and productiveness, each farmer can learn for himself just which variety is best adapted to his soil and climate and whether any of the higher-priced varieties are worth the difference in the cost of seed for his purpose; at the same time acquiring a liberal education on the subject of alfalfa. One can at the same time get a start in the seed of desirable sorts if plants are transplanted and seed saved.

### PRICES.

Educational Package, consisting of 10 packets of alfalfas and sweet clover, with Book on Alfalfa, \$1, postpaid.



## ALFALFA PLANTS.

Alfalfa plants will succeed where seed fails. In localities so dry that the germination of seed is uncertain or impossible one can get a stand of alfalfa by transplanting plants. It is also a very desirable way to get a start in the rare varieties, as they can usually save sufficient seed the same year to more than pay for cost of plants. Another advantage of this method is that one can get a full and even stand all over the field,—no over-crowded spots, no bare spots. Plants ship well and the stand is always good if ordinary care is used and planting instructions followed. Planting instructions are sent with each order. It is not so difficult a task to set out a field as it appears, and without any especial tools but a spade one man can set out from a half to one acre a day. With a horse transplanter a man, two boys, and a team can set from five to ten acres a day.

It takes 2,400 plants to the acre, set four feet each way, 3,500 plants 3½ feet each way. The variety of the plants and the annual rainfall govern the distance. Do not set too close in dry regions. If set closer than these distances, cultivation becomes difficult if not impossible after the second year, and it is by cultivation that we conserve the moisture.

It is not unusual for transplanted plants to produce seed at the rate of 150 pounds per acre the same year set out, and the second year they will out-yield old broadcast fields of years' standing.

You run no chance of introducing noxious weed seeds on your farm by this method of getting a start in alfalfa, as you do in sowing seed.

### PRICES.

Variety	100	1,000
	Postpaid	By Express
Grimm—Good thrifty one-year-old plants-----	\$1.00	\$ 5.00
Cossack—Good thrifty one-year-old plants ----	2.00	10.00
Cherno—Good thrifty one-year-old plants-----	2.00	10.00

## "IN ALFALFA WE TRUST."

Semipalatinsk—Good thrifty one-year-old plants 5.00---- 25.00  
Orenburg ----- 10c. each.

500 at thousand rates. Special prices on large orders.

Plants are carefully packed and guaranteed to arrive in good condition. Weights when packed for shipment are about one pound per 100 plants. One thousand plants well cared for should yield from 12 to 15 pounds of seed the same season set out. It is possible to transplant at any season. Mid-summer is the most trying time, and the very best is late fall just before freezing-up time. Plants will be shipped at proper time and customer will be notified in time to prepare ground for them before arrival.

+ +

## NITROGEN CULTURES.

I furnish inoculated soil free to all customers, charging only for bags. It is frequently the case that transportation charges on soil is more expensive than commercial cultures, besides being less convenient and satisfactory. BACTERIA MUST BE PRESENT IN THE SOIL TO INSURE SUCCESS WITH ALFALFA. IF IT IS NOT NATURALLY IN YOUR SOIL IT MUST BE SUPPLIED ARTIFICIALLY.

For the convenience of customers desiring commercial cultures I am offering the improved German soil cultures of the Dr. Noobe and Hiltner process, the NITROGEN alfalfa cultures manufactured by Armour Fertilizer Works, at the following prices:

1/2-acre size cans-----	\$1.00
1-acre size cans-----	2.00
5-acre size cans-----	9.00

Postage extra 10c. per acre, if sent by mail.

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## WHITE-BLOSSOMED SWEET CLOVER.

(*Melilotus alba*)

This plant, long considered a pest, is now being boomed as the greatest of clovers, and although I do not agree with its over-enthusiastic boosters, that it will displace all other clovers and alfalfas, I do believe that it is of great value. It will grow on any kind of soil, no matter how poor, if it has moisture. My observation, contrary to the claims made for it by others, is that it does not stand drouth like alfalfa. It seems to care nothing for the character of the soil or the presence of sunlight if moisture is in the soil. It grows rankly in timber and along our creek; it grows in Homestake Mine tailings (ground quartz).

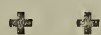


## **"IN ALFALFA WE TRUST."**

to a height of 8 feet, where no other living thing is found; and even large cottonwood trees that were growing there before the deposits were made were dead. It makes pasture and hay of similar value to alfalfa and is eaten readily by stock once they learn the taste. By putting stock on it early in the spring when other green feed is scarce they soon learn to eat it, and will eat it as readily as alfalfa thereafter. It is a great soil builder and fertilizer, and is often of great value in getting alfalfa started. It inoculates the soil and the decaying roots furnish humus for the young alfalfa plants. For the past two years I have followed the practice of sowing sweet clover with all alfalfa grown on compact poor soil. The clover makes the hay yield heavier during the first two years, while the alfalfa is getting started, and then, being a biennial, it dies the second winter, leaving the soil well filled with its large roots to break up the compactness of the soil and to decay and furnish plant food for the alfalfa. (And a few years ago the presence of a few sweet clover seed in alfalfa would have been considered a menace of great magnitude. How we do change our minds, sometimes!)

### **PRICES.**

1 Pound my mail postpaid, 35c.; 10 Pounds, \$3, postpaid; 100 pounds, F. O. B. Whitewood, \$25. Sacks free.



## **YELLOW-BLOSSOMED SWEET CLOVER.**

**(Melilotus Officinalis)**

A very desirable variety for bee pasture. About two weeks earlier than white. It is similar to the white, and makes good hay and pasturage.

### **PRICES.**

1 Pound, by mail postpaid, 35c.; 10 pounds by mail postpaid, \$3; 100 Pounds F. O. B. Whitewood, \$25.



## **CORN.**

**North Dakota White Dent.**

The original seed for this stock was procured from the North Dakota Experiment Station six year ago, and it has proven a very desirable variety here; and our altitude, with cold nights, makes this a very trying corn country. It grows to height of seven to nine feet, with ear well up on the stalk. Ears large and filled to the tips, kernels deep and plump, matures

## **"IN ALFALFA WE TRUST."**

in about 95 days; fifty bushels per acre with ordinary care and cultivation is not unusual. A portion of our seed came from fields that yielded better than 70 bushels per acre this season.

### **PRICES.**

In amounts up to 10 pounds postpaid, 15c per pound; amounts larger than this are F. O. B. Whitewood, sacks extra; 25 Pounds or less, 6c. per Pound; 50 Pounds or less, 5c. per Pound; 100 Pounds, 4c. per Pound.

## **Brown County Yellow Dent.**

The original seed was procured from the United States Department of Agriculture and originated near Aberdeen, S. D. It grows to a height of about seven to eight feet, with ears well up on the stalk, and matures in about 85 days. An early-maturing, drouth-resisting corn for dry localities.

### **PRICES.**

10 Pounds by mail postpaid, \$1.50, F. O. B. Whitewood; 25 Pounds, \$1.50; 50 Pounds, \$2.50; 100 Pounds, \$4.

## **Early White Flint or Ree Corn.**

Two weeks earlier than the earliest dent, one of the best to "hog down", a dry weather corn. Grows about six feet high, very rank, with many leaves; ears from 12 to 15 inches long, and often two to three to the stalk and up high enough to be cut with binder. Yield 30 to 60 bushels per acre.

### **PRICES.**

10 Pounds by mail postpaid, \$1.50; F. O. B. Whitewood, sack extra; 25 Pounds, \$1.50; 50 Pounds, \$2.50; 100 Pounds \$4.

## **Squaw Corn.**

The good old-fashioned corn of this section that has never failed to make good, rain or shine. It was here before the white man came and it is still here and a favorite. Ears larger around than the flint and 10 to 12 inches long, two to three to stalk, often leaving the stalk at the ground; kernel white or varicolored, and is soft and mealy. Grows about six feet high and very heavily leaved. A splendid variety to "hog down." Yields from 30 to 60 bushels under conditions in which dent corn would be a failure.

### **PRICES.**

10 Pounds, by mail postpaid, \$1.50. By freight, F. O. B. Whitewood, 25 Pounds, \$1.50; 50 Pounds, \$2.50; 100 Pounds, \$4.

## **Improved Dented Squaw Corn.**

An improved variety of Squaw corn with dented kernels. Grows to a height of seven feet, with few suckers. Ears from



## **"IN ALFALFA WE TRUST."**

10 to 13 inches long, with plump, dented kernel. Yields abundantly and withstands dry weather. A very desirable corn if you want something early and sure.

### **PRICES.**

10 Pounds, by mail postpaid, \$1.50; by freight at buyer's expense, 25 Pounds, \$1.50; 50 Pounds, \$2.50; 100 Pounds, \$4.



## **MY BOOK ON ALFALFA.**

This book gives the result of my years of experiments in growing alfalfa, and gives practical information on the following subjects: Alfalfa History; Varieties; Soils; Alkali; Acid Soils; Appearance of Such Field Alfalfa as a UNIT; Culture; Testing Seed; Preparing Seed; Scratching; Freezing; Sulphuric Acid; Germination; Seeding; Inoculation Bacteria and Nitrogen; Broadcast Seeding; Nurse Crop; Sunlight; Disking Fields; Drilling in Rows; Transplanting; Noxious Weeds; Hay Production; Machinery to Use; Silos; A Cheap Pit Silo; Seed Production; Harvesting; Hulling; Bees and Honey; Tripping by Bees; Solution of Green Feed Problem for Poultry Question; Condensed Information; Illustrated.

### **PRICES.**

Price, postpaid, 50c., or given free with every order of \$5 or more.



## **POULTRY.**

### **Glenheim Strain of Single Comb White Leghorns.**

This strain of poultry is well-known to poultry raisers in the Northwest, and are making good on thousands of farms throughout this district. They have a record of 200 eggs per year made by 90 pullets. They have been winning wherever shown, both in our hands and in the hands of our customers. In five shows they won over 100 regular prizes and \$100 in Gold Specials. Laying strain has been selected for ten years for heavy laying.

### **PRICES.**

Eggs, \$1.50 per setting of 15 eggs; Cockerels, \$2 each; trio of cockerel and two heavy laying hens or pullets, \$6. Exhibition birds a matter of correspondence.





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Spearfish, S. D.